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148 Sheets



WS 117L

DEVELOPMENT PLAN  
FOR PROGRAM ACCELERATION

90  
CONTRACT AF 04(667)-97

LOCKHEED AIRCRAFT CORPORATION  
MISSILE SYSTEMS DIVISION  
SUNNYVALE, CALIFORNIA

## INTRODUCTION

The WS-117L program now under development has as its objective the provision of complete reconnaissance systems utilizing satellite borne sensing devices. The material here represents a development plan for accelerating this program, and has been prepared by the Lockheed Missile Systems Division in its role as the WS-117L Weapon System Contractor.

In the course of negotiations on 12 to 19 November 1957 for the WS-117L definitive contract, it was requested by AFM&D personnel that Lockheed consider modification of the program for a potential acceleration. Included was consideration of increasing the tempo of vehicle firings to assure greater probability of program success and to reduce the development time scale of a first Pioneer Visual flight capability by one year to March 1960. Subsequently it was requested that consideration be given to developing the Pioneer Ferret system to a time scale comparable to that of the Visual.

In view of recent emphasis on missile weapon systems, it appeared appropriate to the Contractor to consider the inclusion of two alternate approaches in the development program: (1) The use of an IRBM missile as a booster, and (2) The physical recovery of reconnaissance photographs from the orbiting vehicle. Both approaches have been a part of the Contractor's over-all program concept from its inception but had been shelved due to initial funding limitations. The combination of the two approaches will provide a system attaining very early reconnaissance capability. This is quite similar to a method proposed recently by the RAND Corporation using the Thor as a booster and a panoramic camera, in a spin-stabilized recoverable capsule, on orbit.

The over-all program presented here is essentially the same as that presented to AFMMD on 27 November and 5 December 1957, but incorporates the RAND concept for early Thor-boosted reconnaissance flights.

The Contractor believes strongly that should additional funds be available for enhancement of the U. S. military program, consideration should be given to augmentation of the present WS-117L program in the manner and amount shown in Figure 1. This would allow capitalization of the established broad WS-117L base toward expeditious accomplishment of its military objectives. Expanding the vehicle firing rate from four to <sup>20</sup> by Feb. 1960 will allow a more efficient utilization of the system, increase ultimate reliability, and bring about earlier reconnaissance capability.

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PLEASE CALL COLONEL HUGHES, 2224, OR LT COL BOGERT, 2224  
AND ASK ONE OF THEM TO COME TO THIS MACHINE. WE WILL SEND  
YOUR MESSAGE WHILE YOU ARE CONTACTING THEM, AND THEN STAND BY FOR THEIR  
REPLY. THEN WE HAVE A SECOND MESSAGE FOR MAJOR ZELINKA OR HIS  
ASSISTANT /INWDTR/. YOU MIGHT ALERT THEM TO BE READY AT THE  
MACHINE.

THE DUPLY COMMANDER/WEAPON SYSTEMS IS PREPARING THE ARDC  
FIVE YEAR PROJECTED ASTRONAUTICS PROGRAM/ WEAPON SYSTEM/ FOR  
DELIVERY TO GENERAL PUTT WITHIN THE NEXT FEW DAYS. THE AFBMD  
HAD ALREADY FURNISHED MATERIAL FOR THIS PAPER. ATTACHED TO THE  
PAPER WILL BE A SET OF SUMMARY SHEETS SHOWING WHAT WEAPON SYSTEMS  
ARE IN BEING, OR PLANNED, WITHIN THE ASTRONAUTICS AREA. EACH  
PAGE COVERS ONE WEAPON SYSTEM, COTLINED AS FOLLOWS CLN

A. BRIEF

1. DESCRIPTION / TWO LINES OR LESS/
2. CAPABILITY /TWO LINES OR LESS/
3. EXISTING TECHNOLOGY USED / TWO LINES OR LESS/
4. PRINCIPAL TECHNICAL PROBLEMS / TWO LINES OR LESS/

B. R AND D SCHEDULE

1. DEVELOPMENT PERIOD / SHOW END DATE/
2. FLIGHT TEST PERIOD / SHOW END DATE/
3. OPERATIONAL SYSTEM DELIVERY DATE

C. FUNDING /FOR FY 58 AND FY 59/

1. P-600
2. NON-600
3. TOTAL

WE HAVE BEEN ASKED TO PREPARE FOUR OF THESE SHEETS ON A CRASH  
BASIS FOR PRESENTATION TO GENERAL ANDERSON THIS AFTERNOON. THESE  
SHEETS COVER  
THOR

ATLAS  
TITAN

SOLID IRBM

WE HAVE ALL THE INFORMATION WE NEED ON THOR, ATLAS, AND TITAN EXCEPT  
FOR THE R AND D SCHEDULE DATES. WE NEED END DATES, FOR EACH WEAPON  
ON DEVELOPMENT, FLIGHT TEST, AND OPERATIONAL SYSTEM DELIVERY.  
IN ADDITION, WE NEED ALL THE LISTED DATA ON THE SOLID IRBM. CAN YOU  
MAKE THIS AVAILABLE TO US ON THIS TELETYPE WITHIN THE NEXT FEW HOURS?

MAJOR FIEKER, RDZPI, HAS BEEN DIRECTED TO PREPARE INFORMATION  
SIMILAR TO THAT CITED ABOVE, IN OUR MESSAGE TO COLONEL HUGHES. HERE  
ARE MAJOR FIEKER'S QUESTIONS CLN

1. WHAT IS PRESENT FY PLAN FOR NO 10TH QRS
2. PROVIDE ESTIMATE OF COSTS FOR ACQUISITION, TEST, AND  
MAINTENANCE IN FLIGHT PLAN FOR 1961
3. WHAT ARE YOUR PLANS FOR PERSONNEL AND  
SATELLITE SUPPORT IN THE 1961-62 FISCAL YEAR  
SCHEDULE COSTS FOR 1961-62 FISCAL YEAR  
SCHEDULE COSTS FOR 1961-62 FISCAL YEAR

RE THE OFFICERS THERE YET LA FLS

EGATIVE 20J

GR

MD

OR ITEMS 5 1 AND 2 YOU ARE REFERRED TO VOLUME 1 OF THE DEVELOPMENT  
LANT DAEER PLAN DATED 1 OCT.

ITH RESPECT TO THE INFORMATION REQUIRED ON THE SOLID JRM  
E WILLANSWER IN 2 HOURS

HAT IS ALL FOR HERE STAND BY FOR MAJ ZERNENK

OR COL HUCHES

HAVE CHECK VOL 1 OF THE DEVELOPMENT PLAN  
AND IT IS CLEAR THAT THE ATLAS AND TITAN SYSTEM OFFICERS  
USED DIFFERENT DEFINITIONS FOR THE WORD DEVELOPMENT. FOR  
EXAMPLE USING VOL 1 IT WOULD APPEAR THAT ATLAS DEVELOPMENT  
WILL BE FINISHED ABOUT A YEAR LATER THAN TITAN.  
I HESITATE TO SHOW THIS ON A SCHEDULE, AND THAT'S WHY I  
WOULD APPRECIATE YOUR VERISION OF THE DATES. I HAVE THE  
SAME PROBLEM WITH THE TEST DATE CAN U HELP ME OVER

LA FLS

END

RAY WILL ALSO HAVE 1 AVAILABLE IN TWO WEEKS AVAILABLE IN 2 WEEKS

OR THANKS A LOT WE WILL STAND BY FOR MAJ ZERNENK